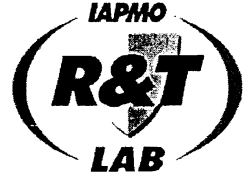


TEST REPORT



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Report Number: 321-07009-B **IT & S Project No.:** 12568C
Report Issued: February 12, 2007
Client: Mifab, Inc.
3380 Sheridan Drive #364
Amherst NY. 14226 **Contact:** Mr. Michael Whiteside
Source of Samples: The samples were sent by Mifab, Inc. and received by IAPMO Testing & Services in good condition on December 30, 2005, and March 1, 2006.
Date of Testing: January 16, 2006 through March 21, 2006
Sample Description: Hubless Couplings
Models: *MI-XHUB2, MI-XHUB3, *MI-XHUB4, MI-XHUB5, MI-XHUB6, MI-XHUB8, MI-XHUB10, and *MI-XHUB12

* Tested models

Each sample consisted of a rubber gasket, a corrugated stainless steel shield, and stainless steel bands / clamp assembly.

Scope of Testing: The purpose of the testing was to determine if the samples tested of the hubless couplings met the applicable requirements of ASTM C1540-02, standard specification for "Heavy Duty Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings".

Conclusion: The samples tested of the hubless coupling models as showed above from Mifab, Inc. COMPLIED with all the applicable requirements of ASTM C1540-02 standard.

By our signature below we certify that all the testing and sample preparation for this report was performed under continuous, direct supervision of IAPMO R&T Lab, unless otherwise noted.

Tested by,

Handwritten signature of Hanks Ninh in black ink.

Hanks Ninh, BSME, Test Engineer

Reviewed by,

Handwritten signature of Jeff Huang in black ink.

Jeff Huang, MSME, Manager Fittings Testing

HN:jh

Primary Standards: ASTM C1540-02 Sections tested / evaluated:

Section 4	Materials and Manufacture
Section 5	Elastomeric Gasket
Section 6	Clamp Assembly
Section 7	Coupling Requirements and Test Methods
Section 8	Markings and Identification

Test Results: All tests and evaluations were conducted per the written procedures in the specified standard.

ASTM C1540-02

4 Materials and Manufacture – COMPLIED

- 4.1 The physical properties of gaskets complied with Specification C 564 using the applicable durometer hardness requirement of the column of Table 2. Refer to USAL Report No. 15510.
- 4.2 The clamp assembly screws did not have screwdriver slots.
- 4.3 All stainless steel met the physical requirements of Specification A240.

5 Elastomeric Gasket – COMPLIED

- 5.1 The elastomeric gaskets consisted of one piece. The material physical testing of the rubber gasket complied with ASTM C564. Refer to USAL Report No. 15510.
 - 5.1.1 The inside stop of the elastomeric gaskets did not create an enlargement chamber or recess with a ledge, shoulder, or reduction of pipe area or offer an obstruction to flow.
 - 5.1.2 The elastomeric gaskets were free of defects that affected the use and serviceability.

6 Clamp Assembly – COMPLIED

- 6.1.2 The clamp assembly was made of 300 series stainless steel and met the physical requirements of Specification A240.
 - The bands were made of stainless steel 301
 - The eyelets were made of stainless steel 301
 - The screw housings were made of stainless steel 304
 - The shields were made of stainless steel 301.
- 6.1.3 The clamp assembly withstood a torque of 125% of the manufacturer’s stated installation torque without any sign of failure when tested per the standard.

7 Coupling Requirements and Test Methods

7.1.1 Deflection Test – COMPLIED

The hubless couplings were set up per figure 5 of the standard. The clamp screws were tightened to a torque of 100 in-lbs. A hydrostatic pressure was applied to 8.6 psi. One pipe was rigidly supported and while under pressure, the opposite end was raised to 1/2 inch per linear foot of the pipe. Maintained for 15 minutes.

Finding: all tested models did not show any leakage during the test.

